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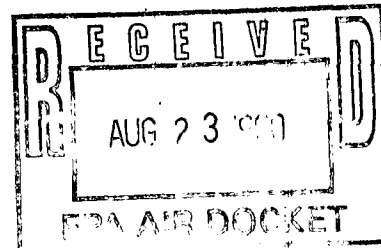
A-90-16



Chrysler Motors Corporation

August 7, 1990

Mary T. Smith, Director
 Field Operations & Support Division (EN-397F)
 U.S. Environmental Protection Agency
 401 M Street S.W.
 Washington, D.C. 20460



Dear Ms. Smith:

This letter is in response to the questions raised by you and other EPA personnel during our conference call on July 25, 1990, regarding Ethyl Corporation's MMT fuel additive waiver application (Docket No. A-90-16, 55 FR 22947, June 5, 1990).

Following is a list of those questions with Chrysler's corresponding responses:

- o Which Chrysler models were used in Ethyl's testing program?

The Dodge Dynasty (3.0L, V-6) was the only Chrysler vehicle used in Ethyl's testing program.

- o What are the current distances between the catalysts and the exhaust engine port, and what are projected for the future? Provide fleet percentages.

As shown in Table I, Chrysler plans to locate its catalysts closer to the engine (i.e., close-coupled). However, while the high temperature operation of these close-coupled catalysts can increase the hydrocarbon (HC) conversion efficiency, it also increases the deterioration rate of the catalysts.

Catalyst deterioration, from the high temperature operation, adversely affects the conversion efficiencies of carbon monoxide (CO) and nitrogen oxides (NOx) more than the HC conversion efficiency. However, since CO and NOx emissions can be controlled by other methods (i.e., EGR, calibration), close-coupled catalysts may provide a means to help meet the future 0.25 gram/mile HC standard.

Improvements in engine control and electronics as well as improved catalyst formulations have increased the durability of close-coupled catalysts. However, close-coupled catalysts are by no means a solution to all emission problems, and in-use catalyst durability for 50K and 100K continues to be a serious concern.

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TABLE I

	<u>Distance(1)</u>			
<u>Engine(2)</u>	<u>1989</u>	<u>1990</u>	<u>1992(3)</u>	<u>Fleet %(4)</u>
<u>Car</u>				
2.2L/2.5L, TBI	19	19	19	50
2.2L/2.5L Turbo, MPI	49	49	24	15
3.0L, V-6, MPI	61	61	35	10
3.3L, V-6, MPI	--	64	40	5
<u>Truck</u>				
3.0L, V-6, MPI	46	46	34	< 1
3.3L, V-6, MPI	--	49	37	15

Notes:

- (1) These distances, which are in inches, are approaching the close-coupled distances in Canada where catalyst plugging has occurred.
- (2) Only Chrysler cars and minivans. Excludes Jeep vehicles.
- (3) V-6 engines require more space between the engine and the catalyst for oxygen sensor and manifold assembly (i.e., manifolds and piping) than four-cylinder engines.
- (4) Order-of-magnitude projected for 1992.

- o Are there any SAE papers or reports that address manganese emissions from the vehicle tailpipe?

Chrysler is not aware of any studies that address manganese emissions from the vehicle tailpipe.

We appreciated the opportunity to discuss our concerns with your staff on July 25, 1990. Please contact Frank Krich on (313) 956-1190 if you have any other questions.

Sincerely,



G. E. Allardyce
Executive Engineer
Certification & Regulatory Programs

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